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Matthew M Terry

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NOVAK DRUCE DELUCA + QUIGG LLP

1300 EYE STREET NW

SUITE 1000 WEST TOWER

WASHINGTON, DC 20005

EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/526,416
Filing Date: March 02, 2005
Appellant(s): TERRY ET AL.

Vincent M. DeLuca
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 7/2/2008 appealing from the Office action mailed 10/01/2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

However, there is a typo in section I, line 1, where claim 81/1 should be 18/1.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

US 4,529,640 A	Brown et al.	July 16, 1985
US 5,110,661 A	Groves	May 5, 1992

Art Unit: 3641

US 2001/0030023 A1

Tippett

October 18, 2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

I. Claims 1, 8/1, 18/1, 19/1, 20/1, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al. (640).

Brown et al. disclose a protection structure and associated method for making comprising:

- a) an open cell core structure; 16, 20
- b) a top face sheet; 22
- c) a bottom face sheet; 18 (adjacent 22b)
- d) a projectile arresting layer coupled to the top face sheet; 12
- e) fragment catching layer coupled to a bottom face sheet; 18 (multiple layers)
- and
- f) at least one truss unit. support walls of 20

With regard to the method claims, the steps of “providing”, “coupling”, and “disposing”, these steps are inherently met since the structure directed to the top and bottom face sheets are illustrated as being coupled (see lone fig.); the open cell core structure is clearly provided (see line fig. (20)); and the projectile arresting layer and fragment catching layer are clearly disposed coupled to the appropriate face sheets (see lone fig. (12, 22; 18)).

II. Claims 1-9, 12-14, 16, 18-21, and 23-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Groves (661).

Groves discloses a protection structure and associated method for making

Art Unit: 3641

comprising:

- a) an open cell core structure; 34, 35
- b) a top face sheet; 32
- c) a bottom face sheet; 33 (nearest 35)
- d) a projectile arresting layer coupled to the top face sheet; 31
- e) fragment catching layer coupled to a bottom face sheet; 33 (multiple layers)
- f) a projectile arresting structure disposed inside the core 46
structure;
- g) a fragment catching structure disposed inside the core 37, 38
structure;
- h) at least one truss unit; support walls of 34, 35
- i) at least one textile layer of intersecting support members 37
forming apertures;

With regard to the method claims, the steps of “providing”, “coupling”, and “disposing”, are inherently met. The structure directed to the top and bottom face sheets are illustrated as being coupled (see fig. 1); the open cell core structure is clearly provided (see fig. 1 (34, 35)); and the projectile arresting structure and fragment catching structure are clearly disposed inside the core (see fig. 1 (46, 37, 38)); the projectile arresting layer is clearly disposed as being coupled to the top face sheet (see fig. 1 (31, 32 and col. 7, lines 4-9)); and the fragment catching layer is clearly disposed as being coupled to the bottom face sheet (see fig. 1 (33)).

III. Claims 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groves (661) in view of Tippet (023).

Groves (661) applies as recited above. However, undisclosed is a fabric layer that of a ceramic fabric material. Tippet (023) teaches a fabric layer that is a ceramic fabric (see para. [0040]). Applicant is substituting one type of fabric layer for another as explicitly encouraged by the secondary reference (see para. [0040] of Tippet) with expected or predictable results. It would have been obvious to a person of ordinary skill in this art the time of the invention to apply the teachings of Tippet to the Grove protection structure and have a protection structure with a different type of protective fabric layer.

(10) Response to Argument

I. Applicant's arguments with regard to Brown et al. (640) and the rejection under 35 USC 102 are addressed as follows.

It is argued that the Doctrine Against Double Inclusion applies because multi-ply inner element 14 should be considered as a single element. In response, this argument is inconsistent with the description of multi-ply element 14 in col. 2, lines 12-14; and multi-ply element as illustrated in the lone figure. In both instances, it is made quite clearly that multi-ply element 14 is intended to be composed of a plurality of fabric layers 18. The fabric layer immediately adjacent the core 16, 20 qualifies as the "bottom face sheet". The other fabric layers 18, not immediately adjacent to the core, qualify as the "fragment catching layer". It is further argued that the separate plies of fabric 18 cannot have separate functionality. This is a mis-interpretation of how Brown et al. is being applied. Each of the fabric layers has a plurality of different functions inherent to its nature. Since each layer is composed of KEVLAR (col. 2, lines 44-65), clearly any of these layers functions as a fragment catching layer. The fabric layer 18 closest to the core also qualifies as "a bottom face sheet coupled to said core". Clearly fabric layers of this

Art Unit: 3641

type can have multiple functions inherent to their nature and positioning relative to the other composite layers of the protective structure. It is further argued that one of ordinary skill would not discriminate individual multiple plies. In response, Brown et al. clearly states that there are individual multiple plies (see col. 2, lines 12-14). Also note the lone figure that gives separate lead lines for each of the different and independent multiple ply layers. It is further argued that layer 14 should be interpreted as a single element 14. This argument is a mis-interpretation of the Brown et al. that clearly discloses separate woven fabric layers 18 that are connected to each other and each of which also contains an impregnating resin matrix.

II. Applicant's arguments with regard to Groves (661) and the rejection under 35 USC 102 are addressed as follows.

It is argued that layers 31 of inner component 12 do not function as the claimed "projectile arresting layer" because the outer component 11 of Groves has already arrested the incoming projectile. In response, any projectile of sufficient size, shape, and velocity that makes it through outer component 11 is inherently arrested by the KEVLAR layers 31 of inner component 12. After all, aren't KEVLAR layers inherently designed to arrest projectiles? It is further argued that the inner layer 12 is specifically designed to spread the impact of the bullet being trapped in the outer layer 11. This is an accurate statement. However, it does not remove the fact that the inner layer 12 would also inherently act to arrest the movement of any projectile of sufficient velocity and design that makes it through the outer layer 11.

It is further argued that the separate sheet layers 33 of inner layer 28 cannot have separate functionality. In response, note that each of the separate sheet layers 33 of KEVLAR material have multiple functions. One of these functions is to arrest projectile movement. Further, any of

Art Unit: 3641

these layers could also be described as "a bottom face sheet". However, only the layer 33 of KEVLAR that is immediately adjacent to the core 43 is being relied upon to meet the claim limitation directed to "a bottom face sheet" even though this layer would also clearly function to arrest projectile movement as well. It is argued that there is no basis to discriminate one of the sheet layers as a bottom face sheet. In response, all the examiner is doing is reading applicant's claim language and identifying elements in the reference that clearly correspond to what is being claimed. Just because the exact same language is not used to describe a particular layer does not disqualify a particular layer 33 from meeting the claim language description of "a bottom face sheet". Clearly the particular layer 33 is located on the bottom of the core and clearly it is a face sheet. What more can be reasonably required?

It is further argued that the two layers 34, 35 and associated items 42 and 43 of Groves do not teach the claim limitation directed to "an open cell core structure". It is argued that because the bases of these two layers are fixed to other layers, the domes 42 and 43 are closed and the open cells are not present as claimed. In response, note that what is at issue is the structure of the cell structure and not the structure of the cell structure and the structure adjacent to the cell structure. Clearly the domes 42 and 43 are of open cell structure to permit the entry and discharge of particles 46. If the domes were complete domes that did not permit entry of particles, this would qualify them as closed-cell in nature. However, the half-domes 42, 43 of Groves are clearly open at the non-completed portions of the domes. With regard to the adjacent layers, this is a description of the layers adjoining the cell core and not the cell core itself. Further, note that the adjacent layer 36 is only fixed to the cell core 42, 43 (see col. 7, lines 26-31) and is not described or disclosed as closing the cell core layer. Also note that the layers 42,

Art Unit: 3641

43 are designed to be compressed during usage and as such would and must expel the particles 46 of the cell core completely to compress during usage (see col. 7, lines 12-16). It is further argued that the chambers 42 and 43 are only open cells during manufacture. In response, just because layer 36 is attached to chamber 42 does not qualify the layer as closing the chamber 42. Further, it is the nature of the cell core that is at issue and not the nature of the cell core in combination with an adjacent layer. If one were to use such an interpretation, applicant's open cell core 21 would be closed via the inclusion of top and bottom face sheets (22, 23). Further, it is not just the manufacturing process that is at issue in view of the fact that the chambers 42, 43 compress during operative function to release particles 46.

III. Applicant's arguments with regard to Groves (661) in view of Tippet (023) and the rejection under 35 USC 103 is addressed as follows.

It is argued that there is no motivation to combine because Tippet is directed to an expansion joint. In response, Tippet provides explicit motivation for substituting different types of fabric barriers (see para. [0040]). Such explicit motivation does not require all aspects of the combined prior art to be of analogous art setting. Further, since one of these materials is Kevlar which is used predominantly in armor material applications, appropriate motivation has been provided for combining these two references.

With regard to the argument that Tippet does not overcome the deficiencies in Grove, since no deficiency is present in Grove, this argument is also unconvincing.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Art Unit: 3641

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Stephen M. Johnson/

Primary Examiner, Art Unit 3641

Conferees:

/Michael Carone/

/Troy Chambers/